CLAIMS

1. A substantially pure protein complex comprising a first polypeptide and a second polypeptide, wherein the first polypeptide comprises the amino acid sequence of SEQ ID NO:1 and the second polypeptide comprises the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7.

2. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:2.

3. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:3.

4. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:4.

5. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:5.

6. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:6.

7. The protein complex of claim 1, wherein the second polypeptide comprises the amino acid sequence of SEQ ID NO:7.

8. A pharmaceutical composition comprising an amount of the protein complex of claim 1 effective for the treatment or prevention of a medical condition associated with FOXC2 expression or activity, and a pharmaceutically acceptable carrier.

9. A method of modulating FOXC2 expression or activity, the method comprising contacting a cell expressing FOXC2 with an amount of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7, or a nucleic acid encoding the polypeptide, sufficient to modulate the expression or activity of FOXC2 in the cell.

10. A method for the treatment or prophylaxis of a medical condition treatable by modulated FOXC2 activity, the method comprising administering to a patient in need of such treatment or prophylaxis an amount of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7 effective to treat or prevent a medical condition treatable by modulated FOXC2 activity, and a pharmaceutically acceptable carrier.

11. The method of claim 10, wherein the medical condition is treatable by increased FOXC2 activity.

12. The method of claim 11, wherein the medical condition is obesity, hypertriglyceridemia, diet-induced insulin resistance, or type 2 diabetes.

13. The method of claim 10, wherein the medical condition is treatable by decreased FOXC2 activity.

14. The method of claim 13, wherein the medical condition is anorexia.

15. A method of identifying an agent that modulates the formation of a FOXC2 protein complex, the method comprising:

(i) contacting a first polypeptide comprising the amino acid sequence of SEQ ID NO:1 and a second polypeptide comprising the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7, in the presence of a candidate agent;

(ii) measuring the formation of a complex between the first polypeptide and the second polypeptide in the presence of the candidate agent; and

(iii) comparing the formation of the complex between the first polypeptide and the second polypeptide in the presence of the candidate agent with the formation of a complex between the first polypeptide and the second polypeptide in the absence of the candidate agent,

to thereby determine whether the candidate agent modulates the formation of a FOXC2 protein complex.

16. A method of identifying an agent that modulates a FOXC2 activity, the method comprising:

(i) contacting a first polypeptide comprising the amino acid sequence of SEQ ID NO:1 and a second polypeptide comprising the amino acid sequence of SEQ ID NO:2,

5   3, 4, 5, 6, or 7 in the presence of a candidate agent;

(ii) measuring a FOXC2 activity of the first polypeptide in the presence of the candidate agent; and

(iii) comparing the FOXC2 activity of the first polypeptide in the presence of the candidate agent with the FOXC2 activity of the first polypeptide in the absence of the

10   candidate agent,

to thereby determine whether the candidate agent modulates a FOXC2 activity.

17. A method of identifying an agent that modulates a FOXC2 activity, the method comprising:

15   (i) contacting a first polypeptide comprising the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7 with a candidate agent;

(ii) determining that the candidate agent binds to the first polypeptide;

(iii) contacting a second polypeptide comprising the amino acid sequence of SEQ ID NO:1 with the candidate agent;

20   (iv) measuring a FOXC2 activity of the second polypeptide in the presence of the candidate agent; and

(v) comparing the FOXC2 activity of the second polypeptide in the presence of the candidate agent with the FOXC2 activity of the second polypeptide in the absence of the candidate agent,

25   to thereby determine whether the candidate agent modulates a FOXC2 activity.

18. A method for the treatment or prophylaxis of a medical condition treatable by modulated FOXC2 activity, the method comprising administering to a patient in need of such treatment or prophylaxis an amount of an agent identified by the method of

30   claim 15 effective to treat or prevent a medical condition treatable by modulated FOXC2 activity, and a pharmaceutically acceptable carrier.

19. The method of claim 18, wherein the medical condition is treatable by increased FOXC2 activity.

20. The method of claim 19, wherein the medical condition is obesity, hypertriglyceridemia, diet-induced insulin resistance, or type 2 diabetes.

5   21. The method of claim 18, wherein the medical condition is treatable by decreased FOXC2 activity.

22. The method of claim 21, wherein the medical condition is anorexia.

10   23. A method for purifying a FOXC2-interacting protein, the method comprising:

(i) contacting a protein complex comprising a FOXC2 protein comprising the amino acid sequence of SEQ ID NO:1 and a FOXC2-interacting protein comprising the amino acid sequence of SEQ ID NO:2, 3, 4, 5, 6, or 7 with an antibody that binds to the

15   protein complex; and

(ii) purifying the FOXC2-interacting protein from the protein complex.